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ABSTRACT

With the overall objective of gathering information concerning employer's attitudes, perceptions, and opinions of Ohio's vocational education program, along with insights as to the strengths and weaknesses of the program and how it might be improved to more fully meet the needs of Ohio employers, mail questionnaires were sent to the personnel departments of 1,000 firms randomly selected from the "Directory of Ohio Manufacturers." The sample included both employers who utilize and those who do not utilize vocational education graduates. The five basic types of question sets developed to provide the data base were attitude questions, attribute importance questions, employee rating questions, open-ended questions, and classification questions. After gathering the data, the attitudinal statements, rankings of employee attributes, and ratings of vocational education and other graduates on each employee attribute were analyzed first for the total sample of 251 respondents and then for individual employer classification variables such as size of firm, percentage of employees who are vocational education graduates, and types of employees utilized. Results showed that attitudes toward and perceptions of vocational education were, in general, quite favorable. Percentages of agreement on some key statements were (1) about 60%--experience with vocational education graduates has been quite favorable, (2) 76%--vocational education students should be given more practical experience in their training, (3) 13%--vocational education students are poorly trained in school, (4) 74%--vocational education needs to have an improved image, and (5) 73%--I would like to know more about this State's vocational education program. This report contains complete explanations of the objectives, research methodology, results, conclusions, and recommendations. (WL)

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**PERCEPTIONS OF VOCATIONAL EDUCATION
IN OHIO BY EMPLOYERS**

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INTRODUCTION

For any evaluation and advisory system for an educational program to be valid, it is imperative to know how that program is perceived by prospective employers of the program's graduates. It is also desirable to have this information for both current users and nonusers of the program's graduates so that a fair, representative perception of the program can be concluded. In addition, it is best to be able to relate the perceptions to employer variables such as size of firm and extent of usage of various types of graduates. It is also beneficial to have concurrent perceptions of alternative educational programs.

This report presents the results of a research project addressed to the above needs for vocational education in the State of Ohio. It is not organized specifically to develop recommendations, but has as its primary focus the understanding of what employers think about Ohio's vocational education program and its graduates.

Six major sections make up the remainder of this report:

Objectives -- the basic objectives of the research project are presented in overview form.

Research Methodology -- this section discusses the sample and questionnaire design along with methods of data analysis utilized.

Results -- individual sections focus on the responses to key research questions and evaluate these responses by specific segments of employers.

Conclusions -- the section summarizes the results presented in the previous section in relationship to the objectives for the study.

Recommendations -- based upon the results of the research, several recommendations are made, consistent with the objectives of the study.

Appendices -- additional information relevant to the study and its conduct are included in this section.

OBJECTIVES

The overall objective of the study was to gather information concerning employers' attitudes, perceptions and opinions of Ohio's vocational educational program, along with insights as to the strengths and weaknesses of the program and how it might be improved to meet more fully the needs of Ohio employers. Specifically, the overall objective was broken down into seven individual objectives or questions:

- What are Ohio employers' attitudes, opinions, and perceptions of vocational education in Ohio?
- What are the strengths and weaknesses of the present program?
- What are the various values of the individual characteristics of vocational education graduates to employers?
- What are the needs and requirements of Ohio employers for vocational education graduates?
- How do all of the above items vary across different classifications of employers?
- How might the vocational education program be profitably improved to meet the needs of Ohio employers?
- Are changes needed in the way characteristics of the present program are communicated to employers?

RESEARCH METHODOLOGY

This section briefly outlines the sample design, questionnaire design, characteristics of respondents, and methods of data analysis.

SAMPLE DESIGN

In order to achieve a sample of both employers who utilize and those who do not utilize vocational education graduates, 1,000 firms were randomly selected from the **Directory of Ohio Manufacturers**. It was decided to include in the sample only those firms with 15 or more employees on the basis that smaller manufacturing firms are likely to have limited contact with or understanding of vocational educational programs. Mail questionnaires were sent to the personnel departments of each of these firms, along with a brief cover letter designed to promote interest in the study and ultimate return of a completed questionnaire. (See Appendix A for a copy of the cover letter.)

QUESTIONNAIRE DESIGN

Five basic types of question sets were developed to provide the data base for this study. Each of these sets is briefly described as follows:

Attitude Questions -- A series of general educational and vocational education specific questions were developed. Respondents were asked to indicate their degree of agreement or disagreement with such questions as "Today's students are receiving good educations," and "Vocational education programs are too general and should be more specific."

Attribute Importance Questions. Respondents were asked to rank the importance to them of a series of employee attributes such as "work habits" and "attitudes toward company/employer."

Employee Rating Questions. For each of the above employee attributes, respondents were asked to rate (five choices from excellent to poor) graduates of vocational education and graduates of other curricula.

Open-Ended Questions. To allow respondents the opportunity to express their perceptions in their own words, several open-ended questions were developed. Respondents were asked to indicate what they perceive to be the basic strengths and weaknesses of Ohio's vocational education program and what types of information concerning vocational education would be helpful to them.

Classification Questions. Questions dealing with size of firm, percentage of employees who are vocational education graduates, and types of employees utilized were included to provide classification capabilities for the analysis of the other sets of questions.

The original questionnaire was sent to a small representative sample of firms in order to ascertain their willingness and ability to respond to the questions. An analysis of this pretest indicated that the questionnaire was probably too long and detailed to achieve the desired response rate. In addition, nonusers of vocational education graduates tended not to respond to this questionnaire.

Based upon these results, the original questionnaire was reduced somewhat in size and altered to achieve a more-representative sample of nonusers of vocational education graduates. The revised questionnaire was also pretested with a small, representative sample of firms. The results of this pretest were deemed very satisfactory and when projected, indicated the desired target response rate of 25 percent for the final sample.

The final questionnaire (Appendix B) was sent to the 1,000 firms in mid-October 1974. A business reply envelope addressed to the director of the study was included with each questionnaire.

CHARACTERISTICS OF RESPONDENTS

After the predetermined cutoff period of three weeks, 251 completed questionnaires had been returned. An additional 75 questionnaires were returned by the post office as nondeliverable due to address change, out-of-business, and the like. The 251 completed questionnaires, therefore, represent a 27 percent response rate for the 925 questionnaires actually delivered. For the statistical significance of this sample size please see Appendix D.

TABLE 1

CHARACTERISTICS OF SAMPLE
(Total Sample n = 251)

BY SIZE OF FIRM (Employees)		PERCENT OF EMPLOYEES WHO ARE VOCATIONAL EDUCATION GRADUATES	
Size	% of Sample	% Voc. Ed. Grad.	% of Sample
Under 75	35%	0%	26%
76-235	30	1-6	39
Over 235	35	Over 6	35

FIRMS WITH THESE TYPES OF EMPLOYEES

TYPE	NUMBER IN SAMPLE	% OF SAMPLE*
Agricultural Education	32	13%
Business and Office Education	200	80
Distributive Education	43	17
Health Education	13	5
Home Economics Education	15	6
Technical Education	153	61
Trade and Industrial Education	186	74

* Adds to more than 100% because of multiple responses.

The individual characteristics of the responding firms are shown in Table 1. Using arbitrary classifications to approximate a balance among the firms in each segment, 35 percent of the sample had under 75 employees and 35 percent had over 235 employees. In terms of percentage of employees who are vocational education graduates, 26 percent of the sample indicated no vocational education graduates, and 35 percent reported over six percent of their employees had vocational education backgrounds.

Each firm was also asked to indicate those areas of educational background in which it had employees. Some 80 percent of the sample utilized business and office education employees. Relatively large percentages of the respondents also indicated employees with technical and trade and industrial education backgrounds. As might be expected from the sample base utilized, small percentages of the respondents acknowledged employees with other types of educations.

In general, the questionnaires were filled out in complete detail. There were some instances in which respondents overlooked the second half (backside) of the questionnaire, omitted "sensitive" answers, or indicated a lack of knowledge sufficient to complete certain questions. These omissions, while minimal, are reported in the results as appropriate and are indicated in the composite computer output package submitted separately to the Ohio Advisory Council for Vocational Education.

METHODS OF DATA ANALYSIS

The information on each questionnaire was transferred to computer cards for subsequent detailed analysis. Two basic computer programs were utilized to evaluate the data base. The first program, frequency counts, indicated the percentages of the total sample (or subsamples) responding in each of the possible ways to each of the questions. For example, what percentage of the total sample strongly agreed with the statement, "Today's students are receiving good educations?" This program also computed the "average" or "mean" response, rating, or ranking on each question.

The second program, cross-tabulations, allowed analysis of two variables (questions or employer classifications) simultaneously. For example, what percentages of the small (under 75 employees), medium (76-235) and large (over 235) firms strongly agreed with the statement "Vocational education programs are too general and should be more specific."

In addition to these two computer analyses, the open-ended questions were read and evaluated. The next section will present the results of the data analysis.

RESULTS

This section is designed to present the major results of the research study. It is divided into three parts. Part one (Tables 2-4) looks at the general responses to the three main question sets (attitudinal questions, importance of employee attributes, and ratings of vocational education and other graduates on each employee attribute) for the total sample. Part two (Tables 5-13) looks at the same three question sets by employer classification (size of firm, percentage of employees who are vocational education graduates, and types of employees utilized). The third part focuses on the general responses to the open-ended questions.

As will be seen, each section contains a multitude of data. Due to space limitations and differing needs of various readers of this report, it is impossible to indicate all the important points or key implications for each set of analyses. Instead, each table will be briefly described and the highlights presented. Individual readers are urged to examine each table in detail to draw out desired information and comparisons.

It is also important to remember that these tables represent summaries of a more detailed set of analyses. A composite computer output package has been submitted separately to the Ohio Advisory Council for Vocational Education and contains all of the detailed analysis supporting the summary tables. The reader interested in this additional depth of analysis should consult this composite computer output package.

Throughout the individual tables, appropriate differences between means for certain groups have been tested for statistical significance using a t-test. Differences significant at the .05 level or better are indicated with an asterisk (*) or cross (+). Please note that in some instances the questions in the tables have been abbreviated to conserve space. Please see Appendix B for the complete statement of each question.

In some of the tables presented in the following pages variations in sample sizes may exist. These variations reflect the nonresponse of some individual firms on certain questions.

Tables 5-13 indicate the mean response for various questions. The total response distribution for each category is shown in the composite computer

output package. This package includes the appropriate cross-tabulations for key questions versus alternative classification groups. Two of these cross-tabulations are shown in Appendix C for illustrative purposes. Those interested in this additional depth of analysis should consult the composite computer output package.

TABLE 2
RESPONSES TO ATTITUDINAL QUESTIONS
 (Total Sample n = 251)

ATTITUDINAL QUESTIONS	Percentage Response					Mean Response	Non-Response Rate
	Strongly Agree	Agree	Undecided In Opinion	Disagree Somewhat	Strongly Disagree		
Questions specific to the vocational education program							
Vocational education programs are too general.	18.4%	26.9%	18.4%	33.1%	3.3%	2.78	2.4%
Those having vocational education have more knowledge.	25.9	50.6	12.6	9.6	1.3	2.10	4.8
Firm's experience with vocational education graduates is favorable.	22.2	37.9	27.4	10.5	2.0	2.32	1.2
Vocational education students should have more practical experience.	31.3	45.0	17.3	6.4	0.0	1.99	0.8
Programs in vocational education are highly satisfactory.	5.6	36.8	30.0	22.8	4.8	2.84	0.4
There's a lot I do not know about vocational education.	19.3	43.0	10.0	21.7	6.0	2.52	0.8
Vocational education students are poorly trained.	2.8	10.0	34.1	40.2	12.9	3.50	0.8
Vocational education graduates are easier to train.	20.2	47.2	24.6	7.3	0.8	2.21	1.2
Vocational education needs an improved image.	31.3	43.1	15.9	8.9	0.8	2.05	2.0
Graduates of vocational education are poorly motivated.	5.3	13.8	30.8	35.6	14.6	3.40	1.6
On-the-job training is better than vocational education.	9.3	32.7	24.2	29.8	4.0	2.87	1.2
I would like to know more about state's vocational education.	38.7	34.7	20.0	4.9	1.8	1.96	10.4
General education-employee questions							
Today's students are receiving good educations.	8.4%	54.8%	3.6%	25.6%	7.6%	2.63	0.4%
On-the-job training is best way to get good employees.	17.1	53.5	5.3	20.4	3.7	2.40	2.4
It is difficult to train new employees today.	18.5	32.5	4.5	35.0	9.5	2.84	3.2
Employees no longer want to work as hard.	52.0	30.0	3.6	11.2	3.2	1.83	0.4
It is not easy to find good employees today.	49.0	33.1	3.2	12.0	2.8	1.86	0.0
Most people are getting too much education.	6.8	13.3	7.6	39.8	32.5	3.78	0.8
Employee turnover is a real problem.	44.4	29.6	3.6	17.8	4.8	2.09	0.4
Today's employees are too concerned about money.	24.3	36.3	6.8	30.7	2.0	2.50	0.0
More contact is needed between employers and educators.	50.6	36.3	9.2	3.2	0.8	1.67	0.0
Our schools don't provide enough technical training.	24.4	43.1	17.5	13.4	1.6	2.25	2.0
Most new employees today are well prepared for jobs.	0.4	6.9	9.3	60.7	22.7	3.98	1.6

PART I
COMMENTS ON TABLE 2

DESCRIPTION

Contains the percentage distribution of all responses for the attitudinal set of questions (general education and vocational education specific) for the total sample. Also includes the mean response (strongly agree = 1, strongly disagree = 5) for each statement. The percentage of the sample not responding to each statement is also indicated. The percentage response for each category is given as a percentage of those who responded to the statement.

HIGHLIGHTS

- 60% of the respondents agree or strongly agree that they have had favorable experience with vocational education graduates.
- 76% agree or strongly agree that vocational education students should have more practical experience.
- 5.6% strongly agree and 36.8% agree that programs in vocational education are highly satisfactory; 22.8% disagree somewhat and 4.8% strongly disagree.
- 74% agree or strongly agree that vocational education needs an improved image.
- 73% agree or strongly agree that they would like to know more about the state's vocational education program.
- 87% agree or strongly agree that more contact is needed between employers and educators.
- 68% agree or strongly agree that schools do not provide enough technical training.

--For vocational education specific statements:

Strongest Agreement

- Vocational education students should have more practical experience.
- Would like to know more about the state's vocational education program.

Strongest Disagreement

- Vocational education students are poorly trained.
- Graduates of vocational education are poorly motivated.

--For general education - employee questions:

Strongest Agreement

- More contact is needed between employers and educators.
- Employees no longer want to work as hard.
- It is not easy to get good employees today.

Strongest Disagreement

- Most new employees today are well prepared for jobs.
- Most people are getting too much education.

TABLE 3**MEAN IMPORTANCE RANKINGS OF EMPLOYEE ATTRIBUTES
(For Total Sample)**

EMPLOYEE ATTRIBUTES	MEAN RANK
Skills needed for job opening	5.05
Willingness to learn new job skills or take training	5.00
Responsibility and ability to follow through	4.07
Pride of craftsmanship/quality of work	4.24
Ability to follow suggestions	6.94
Attitudes toward company/employer	5.51
Dependability--can be counted on to do what is promised	3.61
Concern for productivity	5.74
Work habits	5.74
Ability to work with others	5.71

PART I (Continued)

COMMENTS ON TABLE 3

DESCRIPTION

Gives the mean (average) rank for each of the 10 employee attributes for the total sample. Respondents were asked to assign the rank of "1" to the most important attribute to them in considering a person for employment. A "2" went to the second most important attribute, and so on until the least important attribute received a "10." Therefore, the lower the mean rank, the more important the attribute.

HIGHLIGHTS

- "Dependability -- can be counted on to do what is promised" was listed as most important.
- "Responsibility and ability to follow through" was second most important.
- Least important was "ability to follow suggestions." Note: this does not mean that this attribute is not important, it means that it is considered least important of these 10 attributes, all of which were included in the study because of their general importance to most employers.
- There is little variation in the mean importance of the rest of these attributes since they are all generally important and the differences that do exist in the perceptions of various types of employers are averaged out here.

TABLE 4
RATINGS OF VOCATIONAL EDUCATION GRADUATES AND
OTHER GRADUATES ON EMPLOYEE ATTRIBUTES
(For Total Sample)

EMPLOYEE ATTRIBUTES	Percentage Response					Mean Response	Non-Response Rate
	Excellent	Good	Average	Below Average	Poor		
Vocational Education Graduates							
Skills needed for job opening	9.3%	53.5%	34.4%	1.9%	0.9%	2.32*	14.3%
Willingness to learn new job skills or take training	10.3	51.4	32.2	4.7	1.4	2.35*	14.7
Responsibility and ability to follow through	5.1	37.5	44.4	12.5	0.5	2.66	13.9
Pride of craftsmanship/quality of work	7.5	50.9	30.7	9.4	1.4	2.46*	15.5
Ability to work with others	5.1	40.7	48.6	5.6	0.0	2.55	14.7
Attitudes toward company/employer	3.3	31.5	53.1	10.8	1.4	2.78*	15.1
Ability to follow suggestions	2.5	42.6	50.0	4.9	0.0	2.57*	35.5
Work habits	5.3	47.4	40.0	5.8	1.6	2.51*	24.3
Concern for productivity	2.7	40.3	43.5	9.7	1.8	2.71*	25.9
Dependability--can be counted on to do what is promised	7.1	32.3	51.5	7.6	1.5	2.64*	21.1
*Significant at .05 level when compared to mean value for graduates of other curricula.							
Graduates of Other Curricula							
Skills needed for job opening	3.2%	29.1%	50.3%	15.3%	2.1%	2.84	24.7%
Willingness to learn new job skills or take training	7.7	38.3	45.9	7.1	1.0	2.56	21.9
Responsibility and ability to follow through	7.5	35.2	46.2	9.5	1.5	2.62	20.7
Pride of craftsmanship/quality of work	4.5	25.0	54.5	11.0	5.0	2.87	20.3
Ability to work with others	4.3	38.9	51.2	5.7	0.0	2.58	15.9
Attitudes toward company/employer	4.3	23.3	54.8	14.3	3.3	2.89	16.3
Ability to follow suggestions	4.4	33.5	53.9	7.3	1.0	2.67	17.9
Work habits	2.5	25.0	56.4	13.2	2.9	2.99	18.7
Concern for productivity	3.8	22.1	53.8	17.3	2.9	2.93	17.1
Dependability--can be counted on to do what is promised	5.7	24.1	56.1	12.7	1.4	2.80	15.5

PART I (Continued)

COMMENTS ON TABLE 4

DESCRIPTION

Contains the percentage distribution of all responses for attribute ratings of vocational education graduates and graduates of other curricula for the total sample. Also includes the mean response (excellent = 1, poor = 5) for each attribute for each group. The percentage of the sample not responding to each statement is also indicated. The percentage response for each category is given as a percentage of those who responded to the statement.

HIGHLIGHTS

-- Vocational education graduates rated

strongest on

- skills needed for job opening
- willingness to learn new job skills or take training

weakest on

- attitudes toward company/employer
- concern for productivity

-- Graduates of other curricula rated

strongest on

- willingness to learn new job skills or take training
- ability to work with others

weakest on

- concern for productivity
- attitudes toward company/employer
- work habits

-- In all areas except "responsibility and ability to follow through" vocational education graduates are rated better. The differences are significant at the .05 level for all attributes except the above stated one and "ability to work with others."

-- There was a relatively high rate (about 15 percent) of nonresponse to these questions because they appeared on the backside of the questionnaire.

TABLE 5
MEAN RESPONSES TO ATTITUDINAL QUESTIONS
CLASSIFIED BY PERCENTAGE OF EMPLOYEES
THAT ARE VOCATIONAL EDUCATION GRADUATES

ATTITUDINAL QUESTIONS	Firms Employing These Percentages of Vocational Education Graduates			Total Sample
	0%	1-5%	Over 5%	
Questions Specific to the Vocational Education Program:				
Vocational education programs are too general.	2.73	2.78	2.85	2.76
Those having vocational education have more knowledge.	2.54*	1.83	2.06	2.10
Firm's experience with vocational education graduates is favorable.	2.80*	2.16	2.18	2.32
Vocational education students should have more practical experience.	2.05	1.91	2.04	1.99
Programs in vocational education are highly satisfactory.	2.97	2.74	2.82	2.84
There's a lot I do not know about vocational education.	2.03*	2.73	2.85	2.52
Vocational education students are poorly trained.	3.13*	3.72	3.57	3.50
Vocational education graduates are easier to train.	2.67*	2.03	2.06	2.21
Vocational education needs an improved image.	2.23	2.00	2.02	2.05
Graduates of vocational education are poorly motivated.	3.05*	3.69	3.42	3.40
On-the-job training is better than vocational education.	2.64*	2.94	2.98	2.87
I would like to know more about state's vocational education.	1.95	1.84	2.04	1.96
General Education--Employee Questions				
Today's students are receiving good educations.	2.63	2.83	2.55	2.63
On-the-job training is best way to get good employees.	2.35	2.33	2.52	2.40
It is difficult to train new employees today.	2.75	2.85	2.95	2.84
Employees no longer want to work as hard.	1.74	1.93	1.82	1.83
It is not easy to find good employees today.	2.10*	1.94	1.83	1.86
Most people are getting too much education.	3.82	3.80	3.81	3.78
Employee turnover is a real problem.	2.05	2.15	2.09	2.09
Today's employees are too concerned about money.	2.58	2.83	2.78	2.50
More contact is needed between employers and educators.	1.89*	1.53	1.66	1.67
Our schools don't provide enough technical training.	2.44*	2.24	2.12	2.25
Most new employees today are well prepared for jobs.	4.08*	4.01	3.41	3.98
*Significant at .05 level when compared to mean value for employers with over 6% vocational education graduates.				

PART II
COMMENTS ON TABLE 5

DESCRIPTION

Compares the mean (average) responses to the attitudinal questions of firms with various percentages of employees who are vocational education graduates. Also shows the mean for the sample as a whole for comparison purposes. The lower the mean value the more agreement there is with a statement.

HIGHLIGHTS

- Nonusers of vocational education graduates **more strongly agree** than (statistically significant differences in means) heavy users of vocational education graduates (six percent or more of employees) on these statements:
 - there's a lot I do not know about vocational education
 - vocational education students are poorly trained
 - graduates of vocational education are poorly motivated
 - on-the-job training is better than vocational education

- Nonusers **more strongly disagree** than heavy users on these areas:
 - those having vocational education have more knowledge
 - firm's experiences with vocational education graduates is favorable
 - it is not easy to find good employees today
 - more contact is needed between employers and educators
 - our schools do not provide enough technical training
 - most new employees today are well prepared for jobs

- It is important to recall at this point that these are perceptions that respondents have. It is true that the nonusers agree that there is a lot that they do not know about vocational education, but they still have "perceptions" that tend to be more negative of vocational education than those held by heavy users.

- Nonusers do strongly agree with the statement that they would like to know more about the state's vocational education program.

TABLE 6
MEAN RESPONSES TO ATTITUDINAL QUESTIONS
CLASSIFIED BY SIZE OF FIRM

ATTITUDINAL QUESTIONS	Firms with These Numbers of Employees			Total Sample
	Under 75	75-235	Over 235	
Questions Specific to the Vocational Education Program				
Vocational education programs are too general.	2.54*	2.73	2.96	2.76
Those having vocational education have more knowledge.	2.19	2.14	1.99	2.10
Firm's experience with vocational education graduates is favorable.	2.49*	2.92	2.22	2.32
Vocational education students should have more practical experience.	1.36	1.90	2.07	1.99
Programs in vocational education are highly satisfactory.	3.07*	2.79	2.71	2.84
There's a lot I do not know about vocational education.	2.31*	2.41	2.79	2.52
Vocational education students are poorly trained.	3.23*	3.52	3.70	3.50
Vocational education graduates are easier to train.	2.29	2.22	2.19	2.21
Vocational education needs an improved image.	2.52	2.20	1.92	2.05
Graduates of vocational education are poorly motivated.	3.19*	3.19	3.76	3.40
On-the-job training is better than vocational education.	2.87	2.74	2.94	2.87
I would like to know more about state's vocational education.	2.04	1.88	1.97	1.96
General Education--Employee Questions				
Today's students are receiving good educations.	2.77	2.74	2.80	2.83
On-the-job training is best way to get good employees.	2.40	2.07	2.87	2.40
It is difficult to train new employees today.	2.71*	2.86	3.10	2.84
Employees no longer want to work as hard.	1.67*	1.71	2.07	1.83
It is not easy to find good employees today.	1.70*	1.84	2.03	1.86
Most people are getting too much education.	3.73	3.80	3.86	3.78
Employee turnover is a real problem.	1.95*	1.93	2.29	2.00
Today's employees are too concerned about money.	2.61*	2.42	3.02	2.50
More contact is needed between employers and educators.	1.80*	1.70	1.55	1.67
Our schools don't provide enough technical training.	2.14	2.37	2.22	2.25
Most new employees today are well prepared for jobs.	3.93	4.14	3.92	3.96
*Significant at .05 level when compared to mean value for larger firms (over : 235 employees)				

PART II [CONTINUED]

COMMENTS ON TABLE 6

DESCRIPTION

Compares the mean (average) responses to the attitudinal questions of various size firms in terms of number of employees. Also shows the mean of the sample as a whole for comparison purposes. The **lower** the mean value the more agreement there is with that statement.

HIGHLIGHTS

-- Smaller firms (under 75 employees) **more strongly agree** than (statistically significant differences in means) larger firms (over 235 employees) on these statements:

- Vocational education programs are too general.
- There's a lot I do not know about vocational education.
- Vocational education students are poorly trained.
- Graduates of vocational education are poorly motivated.
- It is difficult to train new employees today.
- Employees no longer want to work as hard.
- It is not easy to find good employees today.
- Employee turnover is a real problem.
- Today's employees are too concerned about money.

-- Smaller firms **more strongly disagree** than larger firms on these statements:

- Firm's experience with vocational education graduates is favorable.
- Programs in vocational education are highly satisfactory.
- More contact is needed between employers and educators.

-- While not analyzed separately, in all likelihood smaller firms are more likely to be proportionately lighter users of vocational education graduates.

-- Smaller firms do indicate a high degree of interest in knowing more about the state's vocational program.

-- Middle size firms (76-235 employees) are the group (in this study) most interested in receiving more information about vocational education, although differences are not statistically significant.

TABLE 7
MEAN RESPONSES TO ATTITUDINAL QUESTIONS CLASSIFIED BY TYPE OF EMPLOYEES HIRED
ATTITUDINAL QUESTIONS

ATTITUDINAL QUESTIONS	Firms With These Types of Employees							Total Sample n = 251
	Agricultural Education n = 32	Business & Office Education n = 200	Distributive Education n = 43	Health Education n = 13	Home Economics Education n = 15	Technical Education n = 153	Trade & Industrial Education n = 166	
Questions Specific to the Vocational Education Program								
Vocational education programs are too general.	2.74	2.76	3.00	3.00	3.47*	2.79	2.78	2.76
Those having vocational education have more knowledge.	2.27	2.06	2.02	2.15	2.43	2.07	2.02	2.10
Firm's experience with vocational education graduates is favorable.	2.53	2.35	2.28	2.46	3.07*	2.32	2.25	2.32
Vocational education students should have more practical experience.	2.09	2.01	2.09	2.31	2.53*	2.01	1.99	1.99
Programs in vocational education are highly satisfactory.	3.03	2.82	2.63	2.61	2.93	2.76	2.83	2.84
There's a lot I do not know about vocational education.	2.44	2.49	2.81	2.77	2.53	2.47	2.56	2.52
Vocational education students are poorly trained.	3.47	3.53	3.81	3.54	3.40	3.46	3.17	3.50
Vocational education graduates are easier to train.	2.63*	2.22	2.18	2.00	2.87*	2.19	2.15	2.21
Vocational education needs an improved image.	1.97	2.05	2.07	2.46	2.13	2.05	2.05	2.05
Graduates of vocational education are poorly motivated.	3.25	3.46	3.74*	3.46	3.27	3.45	3.47	3.40
On-the-job training is better than vocational education.	2.50*	2.88	3.12	2.77	2.07*	2.95	2.92	2.87
I would like to know more about state's vocational education.	1.69	1.86	2.05	2.00	1.93	1.90	1.95	1.96
General Education--Employee Questions								
Today's students are receiving good educations.	2.91	2.68	2.39	3.50*	3.47	2.73	2.71	2.63
On-the-job training is best way to get good employees.	2.19	2.45	2.81*	2.15	2.07*	2.49	2.42	2.40
It is difficult to train new employees today.	3.25*	2.88	2.90	2.92	3.54	2.78	2.83	2.84
Employees no longer want to work as hard.	1.44*	1.88	1.96	1.54	1.93	1.79	1.86	1.83
It is not easy to find good employees today.	1.78	1.67	2.17	1.61	1.67	1.74	1.82	1.86
Most people are getting too much education.	3.91	3.80	3.79	3.77	3.93	3.81	3.86	3.78
Employee turnover is a real problem.	1.85*	2.16	2.35	1.77	2.33	2.17	2.04	2.09
Today's employees are too concerned about money.	2.44	2.57	2.74	2.85	2.53	2.54	2.56	2.50
More contact is needed between employers and educators.	1.85	1.66	1.67	1.54	2.00	1.65	1.80	1.67
Our schools don't provide enough technical training.	2.37	2.22	2.57*	2.23	2.87*	2.21	2.22	2.25
Most new employees today are well prepared for jobs.	4.16	3.97	4.00	4.15	3.40*	3.98	4.03	3.98
*Significant at .05 level when compared to mean value for total sample.								

PART II (Continued)

COMMENTS ON TABLE 7

DESCRIPTION

Compares the mean (average) responses to the attitudinal questions of firms utilizing employees with various educational backgrounds. Also shows the mean for the sample as a whole for comparison purposes. The lower the mean value the more agreement there is with that statement.

HIGHLIGHTS

- Very small differences in responses given by employers hiring business and office, technical and trade and industrial employees as compared to the sample as a whole. This is due to the possibility of multiple responses to this question; most employers in the sample utilize all three types of employees.
- There are significant differences on certain statements about agricultural, distributive, health, and home economics education backgrounds from the sample as a whole. These differences are marked by (*) in the table. They are not discussed here because of space limitations and the highly selective nature of the differences. It is also important to note the very small sample sizes for certain education classifications.

TABLE 6
MEAN IMPORTANCE RANKINGS OF EMPLOYEE ATTRIBUTES
CLASSIFIED BY PERCENTAGE OF EMPLOYEES
THAT ARE VOCATIONAL EDUCATION GRADUATES

EMPLOYEE ATTRIBUTES	Firms Employing These Percentages of Vocational Education Graduates			Total Sample
	0%	1-5%	Over 6%	
Skills needed for job opening	6.65*	4.89	4.10	5.05
Willingness to learn new job skills or take training	5.31	4.77	5.05	5.00
Responsibility and ability to follow through	3.80	4.31	3.90	4.07
Pride of craftsmanship/quality of work	3.82	4.46	4.19	4.24
Ability to follow suggestions	6.82	6.90	7.15	6.94
Attitudes toward company/employer	5.24	5.80	5.56	5.51
Dependability--can be counted on to do what is promised	3.23	3.71	3.76	3.61
Concern for productivity	5.54	5.83	5.86	5.74
Work habits	5.84	5.68	5.77	5.74
Ability to work with others	6.02	5.89	5.43	5.71
*Significant at .05 level when compared to mean value for heavy users (over 6%)				

PART II (Continued)

COMMENTS ON TABLE 8

DESCRIPTION

Gives the mean (average) rank for each of the 10 employee attributes across firms with various percentages of employees who are vocational education graduates. Also shown is the mean for the sample as a whole for comparison purposes. The lower the mean value the more important the attribute is considered.

HIGHLIGHTS

- There is general agreement across all three categories on the relative importance of these 10 employee attributes.
- There is a statistically significant difference between nonusers (0%) and heavy users (over 6%) on the attribute "skills needed for job opening." Nonusers of vocational education graduates rated this attribute less important than did heavy users.
- Other differences can be observed in the table between nonusers and heavy users but are not noted here due to lack of statistical significance.
- The nonusers and heavy users tend to be similar in their importance rankings with the medium users (1-5%) showing more variations than the sample as a whole.

TABLE 9
MEAN IMPORTANCE RANKINGS OF EMPLOYEE ATTRIBUTES
CLASSIFIED BY SIZE OF FIRM

EMPLOYEE ATTRIBUTES	Firms with These Numbers of Employees			Total Sample
	Under 75	76-235	Over 235	
Skills needed for job opening	5.38*	5.46	4.35	5.05
Willingness to learn new job skills or take training	5.27	4.69	4.96	5.00
Responsibility and ability to follow through	3.88	4.25	4.02	4.07
Pride of craftsmanship/quality of work	3.56*	4.10	4.89	4.24
Ability to follow suggestions	6.59	7.03	7.15	6.94
Attitudes toward company/employer	5.39	5.50	5.75	5.51
Dependability--can be counted on to do what is promised	3.64	3.80	3.73	3.61
Concern for productivity	5.29*	5.69	6.31	5.74
Work habits	5.77	5.57	5.85	5.74
Ability to work with others	5.41	5.73	5.98	5.71
*Significant at .05 level when compared to mean value for larger firms (over 235 employees)				

PART II (CONTINUED)
COMMENTS ON TABLE 9

DESCRIPTION

Gives the mean (average) rank for each of the 10 employee attributes across various size firms in terms of number of employees. Also shown is the mean for the sample as a whole for comparison purposes. The lower the mean value the more important the attribute is considered.

HIGHLIGHTS

- There is still general agreement across all categories on the relative importance of these 10 employee attributes.
- Between small firms (under 75) and larger firms (over 235), the following statistically significant differences are noted:
 - smaller firms rate "pride of craftsmanship/quality of work" and "concern for productivity" as more important than do larger firms.
 - larger firms rate "skills needed for job opening" as more important than do smaller firms.
- Medium size firms (76-235 employees) tend to be fairly similar to the total sample with the exceptions of rating "skills needed for job opening" less important and rating "willingness to learn new job skills or take training" as more important.

TABLE 10
MEAN IMPORTANCE RANKINGS OF EMPLOYEE ATTRIBUTES
CLASSIFIED BY TYPE OF EMPLOYEES HIRED

EMPLOYEE ATTRIBUTES	Firms With These Types of Employees							Total Sample
	Agricultural Education n = 32	Business & Office Education n = 190	Distributive Education n = 42	Health Education n = 11	Home Economics Education n = 14	Technical Education n = 145	Trade & Industrial Education n = 178	
Skills needed for job opening	6.29*	4.93	4.45	7.75*	6.64*	4.57	4.88	5.05
Willingness to learn new job skills or take training	4.87	4.99	4.95	4.83	4.29	4.88	5.07	5.00
Responsibility and ability to follow through	3.94	3.93	4.38*	5.67*	4.61	4.00	3.98	4.07
Pride of craftsmanship/quality of work	4.20	4.31	5.12*	4.00	4.57	4.24	4.18	4.24
Ability to follow suggestions	6.84	7.12	7.05	6.91	7.86	7.06	7.14	6.94
Attitudes toward company/employer	4.55*	5.71	5.24	4.33	3.21*	5.56	5.64	5.51
Dependability—can be counted on to do what is promised	3.87	3.61	3.55	3.50	3.71	3.64	3.65	3.61
Concern for productivity	5.60	5.76	5.93	5.41	5.64	5.80	5.80	5.74
Work habits	5.63	5.94	5.78	5.67	5.57	5.86	5.86	5.74
Ability to work with others	5.03	5.86	5.68	5.67	5.00	5.96	5.87	5.71

*Significant at .05 level when compared to mean value for total sample

PART II (Continued)

COMMENTS ON TABLE 10

DESCRIPTION

Gives the mean (average) rank for each of the 10 employee attributes for firms utilizing employees with various educational backgrounds. Also shown is the mean for the sample as a whole for comparison purposes. The lower the mean value the more important the attribute is considered.

HIGHLIGHTS

-- Relatively small differences in responses given by employers hiring business and office, technical, and trade and industrial employees as compared to the sample as a whole (since most employers in the sample utilize all three types of employees). Detailed examination of the table will show some variations.

-- Compared to the sample as a whole, firms with employees having had

Agricultural Education -- rate "skills needed for job opening" as less important and "attitudes toward company/employer" as more important.

Distributive Education -- rate "responsibility and ability to follow through" and "pride of craftsmanship/quality of work" as less important.

Health Education -- rate "skills needed for job opening" and "responsibility and ability to follow through" as less important.

Home Economics Education -- rate "skills needed for job opening" as less important and "attitudes toward company/employer" as more important.

TABLE 11
MEAN RATINGS OF VOCATIONAL EDUCATION GRADUATES AND
OTHER GRADUATES ON EMPLOYEE ATTRIBUTES CLASSIFIED
BY PERCENTAGE OF EMPLOYEES THAT
ARE VOCATIONAL EDUCATION GRADUATES

EMPLOYEE ATTRIBUTES	Firms Employing These Percentages of Vocational Education Graduates			Total Sample
	0%	1-8%	Over 8%	
Vocational Education Graduates				
Skills needed for job opening	2.43*	2.28	2.28*	2.32
Willingness to learn new job skills or take training	2.54	2.28	2.36	2.35
Responsibility and ability to follow through	2.83 +	2.65	2.52	2.66
Pride of craftsmanship/quality of work	2.59	2.37	2.49*	2.48
Ability to work with others	2.85	2.47	2.80	2.55
Attitudes toward company/employer	2.82	2.70	2.78	2.76
Ability to follow suggestions	2.44 +	2.56	2.66	2.57
Work habits	2.53	2.46	2.55*	2.51
Concern for productivity	2.89	2.84	2.82	2.71
Dependability—can be counted on to do what is promised	2.86	2.49	2.77	2.84
* Significant at .05 level when compared to mean value for graduates of other curricula.				
Graduates of Other Curricula				
Skills needed for job opening	2.95	2.96	2.72	2.84
Willingness to learn new job skills or take training	2.81	2.83	2.48	2.56
Responsibility and ability to follow through	2.57	2.78	2.55	2.62
Pride of craftsmanship/quality of work	2.83	2.99	2.79	2.87
Ability to work with others	2.51	2.80	2.80	2.58
Attitudes toward company/employer	2.87	2.92	2.86	2.86
Ability to follow suggestions	2.44 +	2.79	2.86	2.69
Work habits	2.70	3.00	2.86	2.89
Concern for productivity	2.74	3.12	2.84	2.93
Dependability—can be counted on to do what is promised	2.59	2.84	2.83	2.80
+ Significant at .05 level when compared to mean value for employers with over 6% vocational education graduates.				

PART II (Continued)

COMMENTS ON TABLE 11

DESCRIPTION

Compares the mean (average) rating on each employee attribute for both vocational education graduates and graduates of other curricula across firms with various percentages of employees who are vocational education graduates. Also shown is the mean for the sample as a whole for comparison purposes. A **lower** mean value indicates a more favorable rating on the attribute. Statistical comparisons are made between nonusers (0%) and heavy users (over 6%) for each attribute for each group of graduates. Statistical comparisons are also made between the two groups of graduates on each attribute for nonusers and heavy users of vocational education graduates.

HIGHLIGHTS

- Vocational education graduates were rated **better than or equal to** graduates of other curricula on all employee attributes by medium (1-6%) and heavy (over 6%) users of vocational education graduates.
- Nonusers rated vocational education graduates **better than** graduates of other curricula on "skills needed for job opening" (statistically significant) and "pride of craftsmanship and work habits" (although these differences are not statistically significant).
- Nonusers rated vocational education graduates **poorer** on "responsibility and ability to follow suggestions," "ability to work with others," and "dependability" (although these differences were not statistically significant).
- Heavy users rated vocational education graduates **better** on "skills needed for job opening," "pride of craftsmanship" and "work habits" (all statistically significant).
- Compared to heavy users of vocational education graduates, nonusers rated vocational education graduates **poorer** on "responsibility and ability to follow through" and "ability to follow suggestions"; and rated graduates of other curricula **better** on "ability to follow suggestions" (all statistically significant).

TABLE 12
MEAN RATINGS OF VOCATIONAL EDUCATION GRADUATES AND
OTHER GRADUATES ON EMPLOYEE ATTRIBUTES CLASSIFIED
BY SIZE OF FIRM

EMPLOYEE ATTRIBUTES	Firms with These Numbers of Employees			Total Sample
	Under 75	76-235	Over 235	
Vocational Education Graduates				
Skills needed for job opening	2.50* +	2.41	2.13*	2.32
Willingness to learn new job skills or take training	2.41	2.47	2.20*	2.35
Responsibility and ability to follow through	2.75 +	2.77	2.53	2.66
Pride of craftsmanship/quality of work	2.58*	2.49	2.38*	2.46
Ability to work with others	2.59	2.59	2.48	2.55
Attitudes toward company/employer	2.75	2.75	2.76	2.76
Ability to follow suggestions	2.48*	2.65	2.61	2.57
Work habits	2.60* +	2.65	2.35*	2.51
Concern for productivity	2.88 +	2.77	2.56*	2.71
Dependability--can be counted on to do what is promised	2.80 +	2.56	2.57*	2.64
*Significant at .05 level when compared to mean value for graduates of other curricula.				
Graduates of Other Curricula				
Skills needed for job opening	2.93	2.75	2.85	2.84
Willingness to learn new job skills or take training	2.60	2.48	2.56	2.56
Responsibility and ability to follow through	2.66	2.59	2.65	2.62
Pride of craftsmanship/quality of work	3.00	2.75	2.88	2.87
Ability to work with others	2.74	2.43	2.55	2.58
Attitudes toward company/employer	2.71	3.00	2.76	2.89
Ability to follow suggestions	2.69	2.66	2.67	2.67
Work habits	2.95	2.85	2.69	2.89
Concern for productivity	3.03	2.81	2.97	2.93
Dependability--can be counted on to do what is promised	2.94	2.69	2.78	2.80
+ Significant at .05 level when compared to mean value for larger firms (over 235 employees)				

PART II (Continued)
COMMENTS ON TABLE 12

DESCRIPTION

Compares the mean (average) rating on each employee attribute for both vocational education graduates and graduates of other curricula across various size firms in terms of number of employees. Also shown is the mean for the sample as a whole for comparison purposes. A lower mean value indicates a more favorable rating on that attribute. Statistical comparisons are made between small and large firms for each attribute for each group of graduates. Statistical comparisons are also made between the two groups of graduates on each attribute for small and large firms.

HIGHLIGHTS

- Smaller firms (under 75) rated vocational education graduates as compared to graduates of other curricula:

Better On

- skills needed for job opening
- pride of craftsmanship/quality of work
- ability to follow suggestions
- work habits

- Larger firms (over 235) rated vocational education graduates as compared to graduates of other curricula:

Better On

- skills needed for job opening
- willingness to learn new job skills or take training
- pride of craftsmanship/quality of work
- work habits
- concern for productivity
- dependability

- Compared to larger firms, smaller firms rated vocational education graduates:

Poorer On

- skills needed for job openings
- responsibility and ability to follow through
- work habits
- concern for productivity
- dependability

TABLE 13
MEAN RATINGS OF VOCATIONAL EDUCATION GRADUATES AND
OTHER GRADUATES ON EMPLOYEE ATTRIBUTES CLASSIFIED
BY TYPES OF EMPLOYEES HIRED

EMPLOYEE ATTRIBUTES	Firms With These Types of Employees							Total Sample
	Agricultural Education n = 27	Business & Office Education n = 178	Drafting Education n = 40	Health Education n = 10	Home Economics Education n = 13	Technical Education n = 136	Trade & Industrial Education n = 100	
Vocational Education Graduates								
Skills needed for job opening	2.48	2.31	2.17*	2.10*	2.36*	2.23	2.30	2.32
Willingness to learn new job skills or take training	2.33	2.33	2.37	2.30*	2.43	2.28	2.33	2.36
Responsibility and ability to follow through	2.81	2.45	2.62	2.30*	2.25 +	2.58	2.66	2.66
Pride of craftsmanship/quality of work	2.67	2.44	2.23*	2.40*	2.36	2.43	2.47	2.46
Ability to work with others	2.52	2.55	2.36	2.40	2.64	2.53	2.55	2.56
Attitudes toward company/employer	2.82	2.77	2.46* +	3.00	2.71	2.80	2.77	2.78
Ability to follow suggestions	2.78	2.57	2.43	2.78*	2.82 +	2.57	2.58	2.57
Work habits	2.68	2.49	2.47*	2.20	2.84	2.46	2.46	2.51
Concern for productivity	2.85	2.71	2.51*	2.60	2.69	2.74	2.72	2.71
Dependability—can be counted on to do what is promised	2.89	2.62	2.51	3.00	2.71	2.83	2.64	2.84
Graduates of Other Curricula								
Skills needed for job opening	2.56 +	2.85	2.72	2.54 +	2.81	2.85	2.81	2.84
Willingness to learn new job skills or take training	2.48	2.58	2.55	3.00 +	2.57	2.58	2.52	2.58
Responsibility and ability to follow through	2.52	2.67	2.85	3.30 +	2.81	2.72	2.64	2.82
Pride of craftsmanship/quality of work	2.82	2.88	2.53	3.20	2.71	2.80	2.83	2.87
Ability to work with others	2.41	2.58	2.46	2.70	2.50	2.57	2.57	2.58
Attitudes toward company/employer	2.82	2.93	2.92	3.20	2.50 +	2.96	2.86	2.89
Ability to follow suggestions	2.67	2.70	2.47	3.40 +	2.68	2.88	2.88	2.87
Work habits	2.92	2.93	2.87	3.67 +	2.89	2.98	2.88	2.89
Concern for productivity	2.80	2.96	3.03	3.00	2.54	2.99	2.92	2.93
Dependability—can be counted on to do what is promised	2.82	2.83	2.66	3.11	2.81	2.88	2.82	2.89
*Significant at .05 level when compared to mean value for graduates of other curricula.								
+ Significant at .05 level when compared to mean value for total sample.								

*Significant at .05 level when compared to mean value for graduates of other curricula.

+ Significant at .05 level when compared to mean value for total sample.

PART II (Continued)
COMMENTS ON TABLE 13

DESCRIPTION

Compares the mean (average) rating on each employee attribute for both vocational education graduates and graduates of other curricula across firms utilizing employees with various educational backgrounds. Also shown is the mean for the sample as a whole for comparison basis. Selective statistical comparisons are made between certain groups as shown in the table. Statistical comparisons were not made for the business and office education, technical education, and trade and industrial education groups due to their similarity with the sample as a whole. See Table 4 and associated comments concerning the statistical differences between vocational education and other graduates for the total sample.

HIGHLIGHTS

- Firms with distributive education employees rated vocational education graduates as compared to graduates of other curricula:

Better On

- skills needed for job openings
- pride of craftsmanship/quality of work
- attitudes toward company/employer
- work habits
- concern for productivity

- Firms with health education employees (sample size = 10 firms) rated vocational education graduates as compared to graduates of other curricula:

Better On

- skills needed for job openings
- willingness to learn new job skills or take training
- responsibility and ability to follow through
- pride of craftsmanship/quality of work
- ability to follow suggestions

- Firms with home economics education employees (sample size = 13 firms) rated vocational education graduates as compared to graduates of other curricula:

Better On

- skills needed for job opening

(NOTE: All of the above differences are statistically significant.)

PART III

GENERAL RESPONSES TO THE OPEN-ENDED QUESTIONS

While many people are somewhat reluctant to answer questions in their own words, those who do take the time and effort to respond to open-ended questions provide some interesting insights. In this study, people were asked to answer three open-ended questions specific to vocational education. The following sections list some of the main themes emerging from the responses. The numbers in parentheses represent frequency of mention.

Vocational Education Strengths. What do you see as the basic strengths of Ohio's vocational education programs?

- concentrated training in one area (10)
- provides students with an option to college (10)
- keeps students in school (6)
- good instructors (4)
- diversity of program (2)

Vocational Education Weaknesses. What do you see as the basic weaknesses of Ohio's vocational education programs?

- education is not well rounded (17)
- too few schools (16)
- poor teaching staff (12)
- lack of practical experience of graduates (10)
- lack of contact with employers (8)
- not enough information distributed (7)
- graduates do not understand the business system (7)
- poor training equipment (6)
- attracts students who would not make it in college (5)
- graduates are not responsible and dependable (4)
- not enough exposure to vocational education in lower grades (4)

Desired Information. What additional information would be helpful to you in your understanding and evaluation of the state's vocational education program?

- any information that is available (34)
- schedule of curriculum (9)
- availability of graduates (2)
- future plans for development of the program (2)

CONCLUSIONS

Throughout the preceding section on results, comments were made at appropriate points concerning the conclusions that could be drawn from the study. The present section is designed to summarize briefly the main conclusions in relationship to the specific objectives for the research. For the supportive, detailed results, the interested reader should carefully examine Tables 2-13, refer to the accompanying commentary on these tables, and consult the composite computer output package.

A. Attitudes, Opinions, and Perceptions of Vocational Education

In general, attitudes toward and perceptions of vocational education were quite favorable. On almost all employee attributes vocational education graduates were evaluated better than graduates of other curricula. Vocational education graduates rated strongest on "skills needed for job opening" and "willingness to learn new job skills or take training." This group rated lowest on "attitudes toward company/employer" and "concern for productivity" (although these ratings were higher than those received by graduates of other curricula).

About 60 percent of the total sample indicated agreement with the statement "our firm's experience with vocational education graduates has been very favorable." Some 12 percent disagreed with the statement and the remainder of the sample stated undecided or no opinion.

The percentage of "agreement" (combining "strongly agree" and "agree") with vocational education specific questions included:

- 76% -- Vocational education students should be given more practical experience in their training.
- 13% -- Vocational education students are poorly trained in school.
- 19% -- Graduates of vocational education are poorly motivated.
- 74% -- Vocational education needs to have an improved image.
- 73% -- I would like to know more about this state's vocational education program.

B. Strengths and Weaknesses of the Vocational Education Program

In terms of responses to the attitudinal questions and the open-ended questions, several perceived strengths and weaknesses of the vocational education program became apparent.

Strengths -- provides concentrated training in one area; provides students with an option to college training; keeps students in school;

yields graduates who are easier to train than those from other curricula, who come to the job with good motivation, and who have more knowledge of their jobs than other new employees.

Weaknesses — there are too few schools; graduates lack a well rounded education; teaching staff needs upgrading; graduates lack practical experience; program is too general; program needs an improved image; graduates do not understand the business system; program lacks proper contact with employers; and students are trained on poor equipment.

C. Importances of Employee Attributes

There was little variation in the importance rankings of the 10 employee attributes used in this study. Respondents ranked "Dependability, can be counted on to do what is promised" as the most important of the 10 employee attributes. "Responsibility and ability to follow through" was ranked second most important. The attribute of the 10 ranked least important was "ability to follow suggestions." As pointed out in the results section, this does not mean that this employee attribute is unimportant overall. It simply means that it was considered least important of the 10 attributes, all of which were included in the study because of their general importance to most employers.

D. Employers' Needs and Requirements

While employers were not specifically asked to state their needs and requirements in vocational education graduates, several conclusions can be inferred from the results of related questions. Respondents strongly indicated their perceived need for more practical experience for vocational education students. Many respondents also stated that vocational education programs are too general.

In terms of general questions, respondents strongly agreed with the statements "It is not easy to find good employees today," "employee turn-over is a real problem today," "employees no longer want to work as hard as they once did," and "our schools today do not provide enough technical training." It is interesting to note in this connection that nonusers of vocational education graduates perceived them to be of lower quality than graduates of other curricula in terms of "responsibility and ability to follow suggestions," "ability to work with others," and "dependability" (although the differences were not statistically significant at the .05 level).

E. Variations By Classification Of Employers

In terms of the above four areas, interesting and meaningful differences exist across various classifications of employers. These differences for various employer characteristics (size of firm, percentage of employees who are vocational education graduates, and types of employees utilized) are presented in detail in the appropriate parts of the results section.

It is sufficient here to draw the following major conclusions:

Size of Firm -- Smaller firms tended to have a less favorable attitude toward vocational education than larger firms; smaller firms are very interested in knowing more about the state's vocational education program; smaller firms rate "pride of craftsmanship/quality of work" and "concern for productivity" as more important employee attributes than do larger firms; larger firms rate "skills needed for job opening" as more important than do smaller firms; smaller firms rated vocational education graduates of lower quality in terms of "skills needed for job openings," "responsibility and ability to follow through," "work habits," "concern for productivity," and "dependability."

Percentage of Employees Who Are Vocational Education Graduates -- As would be expected, nonusers of vocational education graduates tended to have a less favorable image of them than did heavy users; nonusers more strongly agreed that on-the-job training is better than vocational education; nonusers ranked "skills needed for job opening" as a less important employee attribute than did heavy users of vocational education graduates; nonusers rated vocational education graduates lower than did heavy users on "responsibility and ability to follow through" and "ability to follow suggestions."

Types of Employees Utilized -- all groups tended to rate vocational education graduates quite favorably; firms with distributive education employees and those with health education employees tended to rate vocational education graduates more favorably than graduates of other curricula. It should be pointed out that a large majority of all firms in the sample utilized business and office, technical, and trade and industrial educated employees, while few firms employed people in the other four categories of educational backgrounds.

RECOMMENDATIONS

While this research report is not specifically formulated to make recommendations, the last two objectives can best be approached through some suggestions implied by the analysis.

Suggested Program Improvements

Some 76 percent of the sample agreed that vocational education students should have more practical experience and 70 percent stated that on-the-job training is the best way to get a good employee. With this in mind, and the fact that 87 percent of the sample agreed that more contact is needed between employers and educators, one possible improvement might involve more cooperative arrangements in the program. Perhaps students could get more practical experience in their education by being involved in a cooperative training program with individual firms. It would also probably be desirable for vocational education students to have more schooling in the areas of employee responsibility such as dependability, pride in work, attitudes toward employer, and the like.

Communications with Employers

With 74 percent of the respondents expressing the belief that vocational education needs an improved image and some 62 percent stating that there is a lot that they do not know about vocational education, the need and opportunity for an effective communication strategy is clear. It is also important and refreshing to note that 73 percent of respondents indicated that they would like to know more about the state's vocational education program.

Careful examination of the results section of this report will demonstrate the variations in needs, interests, and perceptions that exist among different groups of employers. In designing a communication strategy, it is important to understand these differences and make adjustments where appropriate for maximum effectiveness.

It is also imperative to make sure that what is being communicated is in fact true. For example, attempts should not be made to convince smaller firms that vocational education graduates are responsible and have the ability to follow through with their assignments unless the graduates actually have training and capabilities in these areas. In some instances, changes in the programs may have to be executed before effective communications with employers can be commenced.

Based upon the general results of the study, and to the extent that a vocational education provides these capabilities, the vocational education graduate should be presented as

- a person who has the ability to work with others and has a favorable attitude toward the employer
- a person who is easily trainable and capable of following directions
- one who comes to the job with practical experience and a good knowledge of what the job entails
- an individual who takes pride in the quality of work performed.

APPENDIX A

COVER LETTER ACCOMPANYING QUESTIONNAIRE

P.O. Box 3123
University Station
Columbus, Ohio 43210

Greetings:

I'll give you two pennies for your thoughts!

With the shortage of pennies today and the adjustment in the above statement due to inflation, I hope that you will take a few minutes right now to respond to this very important questionnaire.

Today many people are concerned with the quality and quantity of education our young people are getting. As part of a select sample for this research, your opinions are needed for a better understanding of the situation and areas in which improvements can be made.

Since I have a relatively small sample receiving the enclosed questionnaire I would sincerely appreciate your filling it out today or routing it to an appropriate person within your company for completion.

Thank you for your cooperation and willingness to participate. It is only through your help that meaningful research can be conducted. It is not necessary for you to give me your name or the name of your company as I wish to treat all responses in confidence.

Have a genuinely good day.

W. Wayne Talarzyk
Ph.D.

APPENDIX B

A QUESTIONNAIRE EXPLORING EMPLOYER ATTITUDES TOWARD EMPLOYEES' TRAINING

1. For each of the following statements, please indicate the extent to which you personally agree or disagree with that statement. Please "X" the box that best describes your feelings about each statement.

("X" ONE BOX FOR EACH STATEMENT)

	Strongly Agree	Agree Somewhat	Undecided No Opinion	Disagree Somewhat	Strongly Disagree
Today's students are receiving good educations.....	☐	☐	☐	☐	☐
On-the-job training is the best way to get a good employee.....	☐	☐	☐	☐	☐
Vocational education programs are too general and should be more specific.....	☐	☐	☐	☐	☐
It is difficult to train new employees today.....	☐	☐	☐	☐	☐
Compared with other new employees, those having had vocational education have more knowledge of their jobs.....	☐	☐	☐	☐	☐
Employees no longer want to work as hard as they once did.....	☐	☐	☐	☐	☐
Our firm's experience with vocational education graduates has been very favorable.....	☐	☐	☐	☐	☐
It is not easy to find good employees today.....	☐	☐	☐	☐	☐
Vocational education students should be given more practical experience in their training.....	☐	☐	☐	☐	☐
The programs in vocational education are highly satisfactory.....	☐	☐	☐	☐	☐
Most people today are getting too much education.....	☐	☐	☐	☐	☐
There is a lot that I really do not know about vocational education programs.....	☐	☐	☐	☐	☐
Employee turn-over is a real problem today.....	☐	☐	☐	☐	☐
Vocational education students are poorly trained in school.....	☐	☐	☐	☐	☐
Today's workers are too concerned about money.....	☐	☐	☐	☐	☐
Employees having had vocational education are easier to train than other employees.....	☐	☐	☐	☐	☐
There needs to be more contact between employers and educators.....	☐	☐	☐	☐	☐
Vocational education needs to have an improved image.....	☐	☐	☐	☐	☐
Our schools today do not provide enough technical training.....	☐	☐	☐	☐	☐
Graduates of vocational education programs are poorly motivated.....	☐	☐	☐	☐	☐

- CONTINUED -

On-the-job training gives better training to an employee than does a vocational education program.....
 Most new employees today are well prepared for their jobs.....
 I would like to know more about this state's vocational education program.....

☐	☐	☐	☐	☐
☐	☐	☐	☐	☐
☐	☐	☐	☐	☐

2. The following questions are for classification purposes only:

- Approximately how many employees does your firm have? _____ % _____
- Approximately what percentage of these employees are vocational education graduates? _____ % _____

• What are the basic products produced by or services offered by your firm? _____

• For geographic classification, please indicate your firm's zip code: _____

• Please place an "X" beside those areas of educational background in which your firm has employees:

_____ Agricultural Education

_____ Home Economics Education

_____ Business and Office Education

_____ Technical Education

_____ Distributive Education

_____ Trade and Industrial Education

_____ Health Education

3. Please rank the following employee traits in their order of importance to you in considering a person for employment. Write a "1" by the trait which is most important to you, then use "2", "3", etc. through "10" to describe the importance of the other traits. The list is long, but it is extremely important that you rank all 10 traits and use all rankings from 1 to 10. Thank you.

Skills needed for job opening.....	_____	Attitudes toward company/employer.....	_____
Willingness to learn new job skills or take training.....	_____	Dependability--can be counted on to do what he promises.....	_____
Responsibility and ability to follow through.....	_____	Concern for productivity.....	_____
Pride of craftsmanship/Quality of work.....	_____	Work habits.....	_____
Ability to follow suggestions.....	_____	Ability to work with others.....	_____

4. Please think about the following employee traits for "graduates of vocational education" and "graduates of other curricula" from which you obtain employees. Please "X" the box that best describes your rating of each of the two groups for each trait named. (NOTE: Even if you do not hire any vocational education graduates or graduates of other curricula please complete all sections of this question. We are very interested in your opinions about each group on all traits. Thank you).

("X" ONE BOX FOR EACH TRAIT FOR EACH GROUP)

GRADUATES OF
VOCATIONAL EDUCATION

	Excellent	Good	Average	Below Average	Poor
Skills needed for job opening.....	☐	☐	☐	☐	☐
Willingness to learn new job skills or take training.....	☐	☐	☐	☐	☐
Responsibility and ability to follow through.....	☐	☐	☐	☐	☐
Pride of craftsmanship/Quality of Work.....	☐	☐	☐	☐	☐
Ability to work with others.....	☐	☐	☐	☐	☐

GRADUATES OF
OTHER CURRICULA

	Excellent	Good	Average	Below Average	Poor
Skills needed for job opening.....	☐	☐	☐	☐	☐
Willingness to learn new job skills or take training.....	☐	☐	☐	☐	☐
Responsibility and ability to follow through.....	☐	☐	☐	☐	☐
Pride of craftsmanship/Quality of Work.....	☐	☐	☐	☐	☐
Ability to work with others.....	☐	☐	☐	☐	☐

Attitudes toward company/employer.....
 Ability to follow suggestions.....
 Work habits.....
 Concern for productivity.....
 Dependability—can be counted upon to do what he promises.....

☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

5. What do you see as the basic strengths of Ohio's vocational education programs?

6. What do you see as the basic weaknesses of Ohio's vocational education programs?

7. What additional information would be helpful to you in your understanding and evaluation of the State's vocational education program?

Thank you very much for your cooperation and insights. Please check to make sure you have responded to all of the questions according to the instructions. Please return your completed questionnaire in the envelope provided, to: Dr. W. Wayne Talarzyk, P.O. Box 3123, Columbus, Ohio 43210.

APPENDIX C

EXAMPLES OF CROSS-TABULATION ANALYSIS

STATEMENT VOCATIONAL EDUCATION PROGRAMS ARE TOO GENERAL

		Strongly Agree (1)	Agree Somewhat (2)	Undecided No Opinion (3)	Disagree Somewhat (4)	Strongly Disagree (5)	
Size of Firm	Under 75	22.4%	31.8%	14.1%	31.8%	0.0%	100.0%
(# of	75-235	20.8	20.8	24.7	31.2	2.6	100.0%
Employees)	Over 235	11.7	27.3	18.9	38.4	7.8	100.0%

Read: Of those firms with under 75 employees, 22.4% strongly agree with the statement; 31.8% agree somewhat; etc.

STATEMENT THERE IS A LOT THAT I DO NOT KNOW ABOUT VOCATIONAL EDUCATION

		Undecided					
		Strongly Agree (1)	Agree Somewhat (2)	No Opinion (3)	Disagree Somewhat (4)	Strongly Disagree (5)	
Vocational Education	0%	34.8%	42.0%	7.2%	11.6%	4.3%	100.0%
Graduates	1-6%	9.6	47.9	7.4	29.8	5.3	100.0%
(% of	Over 6%	17.4	38.4	15.1	20.9	8.1	100.0%
Employees)							

Read: Of those firms with no vocational education graduates (0%), 34.8% strongly agree with the statement; 42.0% agree somewhat with the statement; etc.

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APPENDIX D

SUPPLEMENTARY STATISTICAL INFORMATION

Statistical Significance

Based upon a sample size of 251 firms out of an assumed population of 17,000 manufacturing firms in Ohio, the following statistical significance can be assigned to the study: one can be 95 percent confident that the results are reliable to approximately plus or minus seven percent of the actual values for the total population. This is to say, that in 19 out of 20 times, a repeated sample of this size will give responses that fall within plus or minus seven percent of the true value in the population from which the samples were drawn. This holds true at the most difficult circumstances of prediction, namely where there is a 50-50 dichotomous response percentage. As the dichotomous split increases, the amount of potential error decreases.